

WHAT IS CLAIMED IS:

1. A lens system installed in a mobile communication terminal, comprising:

5           a first lens including at least one aspherical plane and having a positive refractivity;

          a perforated iris separated from the first lens by a designated distance for preventing unnecessary incident light from being incident onto an optical system;

10           a second lens separated from the perforated iris by a designated distance, including at least one aspherical plane and having a positive refractivity; and

          a third lens separated from the second lens by a designated distance, including at least one aspherical plane and having a negative refractivity,

15           wherein the first lens, the perforated iris, the second lens and the third lens are arranged sequentially from a subject, and the perforated iris is located between the first lens and the second lens.

20           2. The lens system as set forth in claim 1, further comprising an IR (infrared) filter separated from the third lens by a designated distance for filtering infrared wavelengths incident onto the optical system so as to protect  
25           an image plane from the infrared wavelengths.

3. The lens system as set forth in claim 1,

wherein the first lens satisfies the following expression (1) in terms of power for obtaining good aberration characteristics of the optical system, and the following expression (2) so as to define a shape thereof for preventing spherical aberration and distortion from occurring in the optical system,

$$0.5 < f_1/f < 3.5 \text{ -----(1)}$$

$$0.3 < r_1/f < 1.0 \text{ -----(2)}$$

here,  $f_1$  is a focal distance of the first lens,  $f$  is a focal distance of the entire optical system, and  $r_1$  is a radius of curvature of a first aspherical plane of the first lens.

4. The lens system as set forth in claim 3,

wherein the first lens is a plastic lens.

5. The lens system as set forth in claim 1,

wherein the second lens satisfies the following expression (3) in terms of power for correcting aberrations of the optical system, and the following expression (4) so as to define a shape thereof for correcting spherical aberration occurring in the optical system and obtaining a good incident angle of light,

$$0.4 < f_2/f < 3.5 \text{ -----(3)}$$

$$0.2 < r_4/f < 1.0 \text{ -----(4)}$$

here,  $f_2$  is a focal distance of the second lens,  $f$  is a focal distance of the entire optical system, and  $r_4$  is a radius of curvature of a fourth aspherical plane of the second lens.

6. The lens system as set forth in claim 5,  
wherein the second lens is a plastic lens.

7. The lens system as set forth in claim 1,

wherein the third lens satisfies the following expression (5) in terms of power for reducing an angle of incident light inputted from the upper side of the optical system, and the following expression (6) so as to define a shape thereof for correcting distortion and spherical aberration occurring in the optical system,

$$0.3 < |f_3/f| < 3.5 \text{ -----(5)}$$

$$1.0 < r_6/f < 3.0 \text{ -----(6)}$$

here,  $f_3$  is a focal distance of the third lens,  $f$  is a focal distance of the entire optical system, and  $r_6$  is a radius of curvature of a sixth aspherical plane of the third lens.

8. The lens system as set forth in claim 7,

wherein the third lens is a plastic lens.

9. The lens system as set forth in claim 1,

wherein the lens system satisfies the following  
5 expression (7) in terms of a length of the optical system,

$$1.0 < oal/f < 2.0 \text{ -----(7)}$$

here, oal is a distance from a first spherical lens of  
the first lens to a sensor plane, and f is a focal distance of  
the entire optical system.

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